

What is claimed is:

1. An electrostatic chuck support mechanism comprising:

an electrostatic chuck plate, mounted on a bearing site of a support stand, for holding a substrate by an electrostatic force;

an electrode bar member connected to a lower surface of said electrostatic chuck plate and disposed through a bearing portion;

a socket member, fixed beside said support stand, for supplying electricity, a lower portion of said electrode bar member being fitted into said socket member; and

a push-up member, provided in said socket member, for pushing said electrode bar member upward, and wherein

said electrostatic chuck plate is fixed on said bearing portion, whereby the lower portion of said electrode bar member is fitted into said socket member against a pushing-up force of said push-up member, while fixing of said electrostatic chuck plate from said bearing portion is released, whereby the lower portion of said electrode bar member is pushed upward by the pushing-up force of said push-up member to move said electrode bar member upward along with said electrostatic chuck plate.

2. The electrostatic chuck support mechanism

according to claim 1, wherein

said push-up member comprises:

a jump-up fitting provided slidably within said socket member and having an upper end portion in contact with the lower portion of said electrode bar member; and

a compression spring member for urging said jump-up fitting upward.

3. The electrostatic chuck support mechanism according to claim 1 or 2, wherein

an insulator is disposed on and fixed to a periphery of each of said electrode bar member and said socket member, and

a shield member for shielding against electromagnetic waves is disposed on and fixed to a periphery of said insulator.

4. A support stand device provided within a processing chamber in which a plasma is generated to process a surface of a substrate with atoms and molecules excited and activated by the plasma, said support stand device being adapted to hold the substrate,

said support stand device further comprising the electrostatic chuck support mechanism according to any one of claims 1 to 3.

5. Plasma processing equipment comprising:

a processing chamber in which a plasma is generated to process a surface of a substrate with atoms and molecules excited and activated by the plasma;

a support stand device, provided in said processing chamber, for holding the substrate; and

plasma generation means for generating the plasma within said processing chamber,

said plasma processing equipment including the electrostatic chuck support mechanism according to any one of claims 1 to 3 as said support stand device.

6. The plasma processing equipment according to claim 5, wherein

said plasma generation means supplies electricity to an antenna to transmit electromagnetic waves and generate a plasma in said processing chamber, thereby depositing a film on the surface of the substrate by means of atoms and molecules excited and activated.